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THE BELCHER ISLANDS OF HUDSON BAY: THEIR DISCOVERY AND EXPLORATION

By ROBERT J. FLAHERTY

[With separate map, Pl. IV, facing p. 440.]

In August, 1910, Sir William Mackenzie, president of the Canadian Northern Railway, engaged the writer to undertake a journey to the Nastapoka Islands, outliers of the east coast of Hudson Bay in $56^{\circ} 5' - 57^{\circ} 50' N.$, for the purpose of examining and reporting upon the commercial value of the iron-ore deposits found upon certain members of the group. Sir William's interest in these deposits was connected with his interest in the new Hudson Bay route for the shipment of grain from the Manitoba grain fields to the European market and the opening of the bay to commerce by rail with Lower Canada and by ship through Hudson Strait with England. The route¹ projected is from Le Pas, a branch line terminal of Sir William's transcontinental railway, to Port Nelson on the west-central coast of Hudson Bay, thence by ship through Hudson Strait and across the North Atlantic to Liverpool. This is a project which, if practicable—a matter still in question—is interesting not only because it would provide a wheat route shorter by a thousand miles than those now in use, but because it would also make immediately available such resources of the vast seaboard of Hudson Bay as might be found to be of commercial extent and of advantageous situation on or near tide water.

This seaboard bounds an area 1,200 miles long by 600 miles wide, 350,000 square miles of inland sea, and embraces the semi-arable hinterland of northern Ontario and northwestern Quebec, the semi-barrens of the Indians, the barrens of the Eskimos, and an arctic area of perpetual ice-bound sea. Nearly two-thirds of this region, indeed, lies within the subarctic and arctic zones of climate.

¹ For a full account see J. A. Cormie: *The Hudson Bay Route*, *Geogr. Rev.*, Vol. 4, 1917, pp. 26-40.

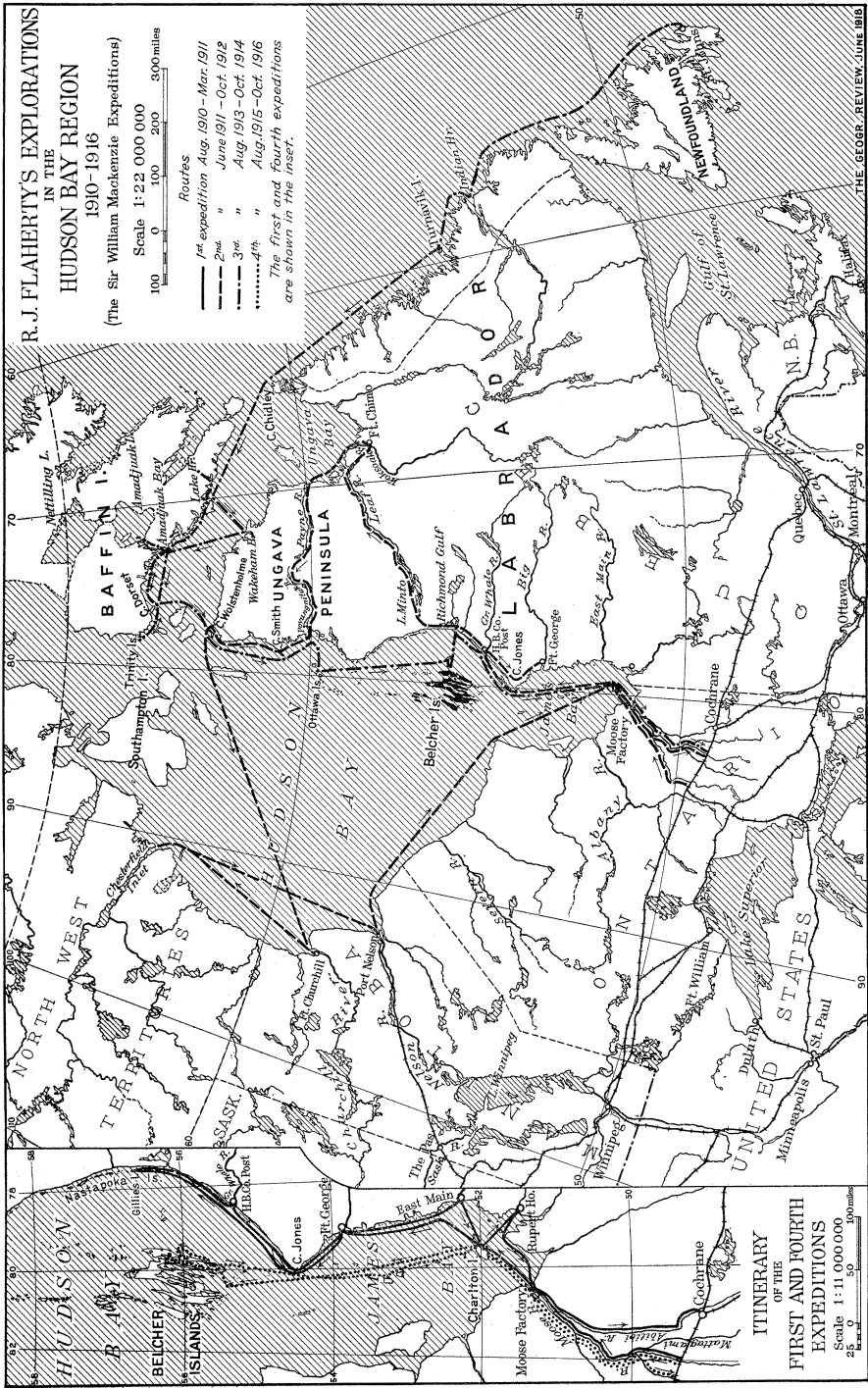


FIG. 1.—Map showing R. J. Flaherty's routes in the Hudson Bay region, 1910-1916, and the location of the Belcher Islands in their actual extent as determined on these expeditions. Scale, 1:11,000,000. The inset, 1:22,000,000, shows the routes of the first and fourth expeditions.

PREVIOUS EXPLORATIONS OF THE HUDSON BAY REGION

The white population of the region numbers some hundred and fifty "fur men," factors of the Hudson's Bay Company and their apprentices. From their posts, six along the east coast and six along the west, two hundred miles apart on an average, they control the trade of the country's native inhabitants, who themselves number less than three thousand all told. Exploration of the "East Main," as the east coast is locally termed, on the part of the Hudson's Bay Company has, despite their two and a half centuries of occupation, been negligible. Under their trading system the native brings his furs to their posts along the seaboard and thus renders unnecessary any expeditions on their part for trade extension—expeditions which would, if made, inevitably involve a certain amount of geographical exploration. Of the score or more of rivers that flow into James Bay and Hudson Bay along the east coast only two have been explored to their sources. The largest river entering James Bay, the Big River, is not only unexplored to its source but is unknown beyond sixty miles from its mouth. The country's vacant spaces therefore can be imagined.²

For such information as we have of the coast and its interior we are indebted largely to the remarkable explorations of the late A. P. Low, of the Canadian Geological Survey, whose work, covering a period of more than twenty years, has given us the most detailed and reliable maps and descriptions of the region available.³ It was Low's detailed reports of the Nastapoka Island discoveries made in 1877 by Dr. Bell, also of the Canadian Geological Survey, that formed the basis of the investigations which I had been commissioned to make.

How this undertaking, involving three further expeditions extending over a period of six successive years, eventually led to the rediscovery, if such it may be called, of an island land mass more than 5,000 square miles in size, lying along the East Main almost within sight of sailing routes of the Hudson's Bay Company to the westward and within a hundred miles of the company's centuries-old post at Great Whale River to the eastward, is a matter of such interest that I give the incidents here just as they happened.

² See the note on "The Unexplored Areas of Continental Canada," with maps, in the *March Review* (Vol. 5, 1918, pp. 233-237).—EDIT. NOTE.

³ A. P. Low: Report on Explorations in James' Bay and Country East of Hudson Bay, Drained by the Big, Great Whale and Clearwater Rivers, Report J of *Annual Rept. Geol. Survey of Canada*, Vol. 3 for 1888, Montreal, 1888.

Id.: Report on Explorations in the Labrador Peninsula along the East Main, Koksoak, Hamilton, Manicouagan and Portions of Other Rivers in 1892-93-94-95, Report L of *Annual Rept. Geol. Survey of Canada*, Vol. 8 for 1895, Ottawa, 1896.

Id.: Report on a Traverse of the Northern Part of the Labrador Peninsula from Richmond Gulf to Ungava Bay, Report L of *Annual Rept. Geol. Survey of Canada*, Vol. 9 for 1896, Ottawa, 1898.

Id.: Report on an Exploration of the East Coast of Hudson Bay from Cape Wolstenholme to the South End of James Bay, Report D of *Annual Rept. Geol. Survey of Canada*, Vol. 13 for 1900, Ottawa, 1902.

Id.: Report on the Geology and Physical Character of the Nastapoka Islands, Hudson Bay, Report DD of *Annual Rept. Geol. Survey of Canada*, Vol. 13 for 1900, Ottawa, 1903.

INITIAL JOURNEY TO THE NASTAPOKAS

From the railway frontier of northern Ontario, in late August, 1910, I journeyed by canoe down the Mattagami and Moose Rivers to Moose Factory on James Bay, thence in a small Hudson Bay sailing craft across James Bay to Fort George on the east coast, where, weatherbound, I remained until the formation of the sea ice in December (see map, Fig. 1). The journey up the coast was then undertaken with relays of sledges with dog teams and native drivers; the first relay at Cape Jones, the northeastern extremity of James Bay, which marks the southern boundary of the subarctic habitat of the Eskimos; the second at Great Whale River, the most northerly post of the Hudson's Bay Company on the East Main, from which point a final 150 miles brought me to the Nastapokas—a distance all told from the railway frontier of 800 miles.

The Nastapoka Islands, ranging in size from a sea-swept reef to an island thirteen miles in length, are grouped in a chain for a distance of 120 miles at an average of four miles from the mainland, forming the spacious Nastapoka Sound. Save the southernmost they lie beyond the limit of trees; such vegetation as they contain—mosses, lichens, and creeping willows—is typically subarctic. The largest of the ore deposits are located on the two central islands of the group, Gillies and Clarke, which are 12 and $3\frac{1}{2}$ miles in length respectively. Their eastern shore line is broken into a series of cliffs, rising, according to Low, to a maximum elevation of 350 feet, where the various rock members are everywhere graphically exposed. These rocks have been identified by Dr. C. K. Leith, of the University of Wisconsin, as of Animikean age. His identification he bases on a correlation with the Animikean rocks of the Lake Superior region, and its interest, economically considered, lies in the fact that it is to these Animikies and the enormous mineral deposits characteristically associated with them that the Lake Superior region in great measure owes its commercial importance.⁴

REPORTS ABOUT THE BELCHER ISLANDS

The examination of Taylor and Gillies Islands completed (the ore deposits were found to be of no present economic interest), I prepared to return to the railway frontier. It was at this juncture that Nero, my

⁴ Dr. Leith, who is a well-known authority on the geology of northern Minnesota and Michigan, made his examination of the Nastapokas during the summer preceding my own journey. His paper gives an excellent description of the island formations; his conclusions, offered tentatively owing to the limited time he had for investigation, he summarizes as follows:

"From an economic standpoint the repetition of essentially Lake Superior conditions in the Hudson Bay country cannot but be of interest, . . . when it is remembered that the enormous deposits of iron, copper, nickel, and cobalt on the south side of the Archean protaxis are, with very few exceptions, associated with Algonkian rocks, and late Algonkian at that, rather than with Archean rocks. There are yet no discoveries to warrant close commercial comparison of the two regions." (C. K. Leith: *An Algonkian Basin in Hudson Bay—A Comparison with the Lake Superior Basin*, *Econ. Geology*, Vol. 5, 1910, pp. 227-246; reference on p. 246.)

For the narrative of the journey, which gives a good insight into the human geography of the region, see C. K. Leith and A. T. Leith: *A Summer and Winter on Hudson Bay*, 203 pp., Madison, Wis., 1912 (reviewed in *Bull. Amer. Geogr. Soc.*, Vol. 45, 1913, p. 770).

driver, one of the only two Eskimos of the seaboard who could speak English, mentioned large islands to seaward of the Nastapokas, where lived a tribe of Eskimos whose hunting ground contained great walrus herds, thousands of geese in spring, salmon, seal, bear, etc.—game supply being to a native the only characteristic of a strange land worth consideration. I remembered then, for the first time since leaving Charlton Island *en route* northward in the preceding fall, a map and interesting information I had received there concerning these same islands from a servant of the Hudson's Bay Company, an Eskimo, Wetalltok by name, head man of the encampment, whom the company had imported from the Great Whale seaboard some fifteen years previously. The map (Fig. 4), drawn on the reverse side of an old missionary lithograph, represented Wetalltok's hunting grounds previous to his migration—*islands which on the admiralty charts (Fig. 2) are known as the North and South Belchers, shown there in dotted outline, the largest of them not more than six miles long.*

The data for this rendering of the East Main islands on the admiralty charts⁵ are taken from the maps and descriptions of Captain Coats, a noted shipmaster in the employ of the Hudson's Bay Company from 1727 to 1751. That Coats relied largely on Eskimo accounts for his notes is apparent from the following statement of his:⁶

Belchers Islands, four in number, lyes forty-five leagues to westward of Little Whale River; by another account, only twenty-nine leagues in latitude $56^{\circ} 06'$, where I was entangled three days in ice. I found a flood and ebb setting due east and west; but we drove to eastward most. I have made a computation of about four and a half miles a day. This increment to eastward, which is owing to those vast quantities of snow, which dissolves and drains down our rivers from the western shore, amongst whom is good anchor ground.

About seven leagues north from those is a range of islands twenty leagues in length, fourteen larger, and many smaller; the middle, in $58^{\circ} 00'$ N. latitude, at a distance of seventeen leagues from the east main, amongst which the Usquemows swarms all the summer months to catch fish and moulted fowl, in great abundance, upon all these, Belchers and Sleeper islands. In latitude $59^{\circ} 05'$, we told fourteen islands in sight; and, by my account, the westernmost is upon the same meridian of the North Bear; and the North is $2^{\circ} 50'$ west longitude from Cape Diggs; and Gulph Hazard lyes $2^{\circ} 05'$ east longitude from Cape Diggs in $56^{\circ} 22'$ north latitude.

Wetalltok's map, on the other hand, showed a land mass of surprising extent. Calculating distances from point to point by Wetalltok's reckoning, i. e. travel time for kayak and dog team, we judged that the main island could hardly be less than 100 miles in length. That a land mass of such extent, however, could exist not a hundred miles to seaward of the centuries-old post at Great Whale River and remain unknown to the Hudson's Bay Company seemed to me altogether improbable, as it did also to the company's men to whom I mentioned the affair at the time—particularly

⁵ Cf. Hudson Bay and Strait, British Admiralty Chart No. 863, mean scale 1:2,100,000, published 1884; 5th edition, 1910.

⁶ John Barrow, edit.: *The Geography of Hudson's Bay: Being the Remarks of Captain W. Coats, etc., Hakluyt Soc. Publ., 1st Series, Vol. 11, London, 1852, p. 66.*

improbable to them, since the islanders migrate across the field ice once a year to trade at Great Whale River Post and consequently are not unknown to them.

Low in one of his reports⁷ refers to a projected exploration of the Belcher Islands that was not carried out. Probably he, too, had received interesting

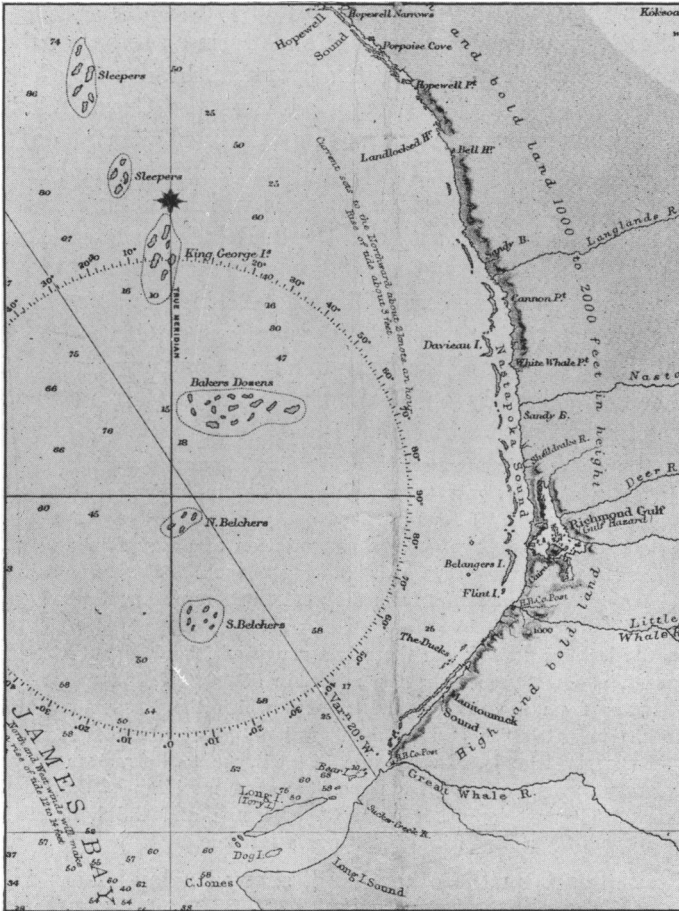


FIG. 2—Section of British Admiralty Chart No. 863 ("Hudson Bay and Strait," mean scale 1:2,100,000, published 1884, 5th edition, 1910) showing current representation of the Belcher Islands. Scale of this reduction, 1:3,300,000.

information from the natives concerning them. The reference is of interest as evidence of the ice conditions that may obtain in the bay during the summer months.

At Great Whale River we were again delayed by ice until the 7th of July, when we were advised by all the Eskimos to abandon our proposed trips to the Belcher islands, which lie about seventy miles off the coast and about which, owing to the prevalence of

⁷ The fourth listed in footnote 3; reference on p. 41.

westerly winds during the early summer, the ice would be very thick. This advice proved correct as the Hudson's Bay Company's ship "Lady Head" was beset with heavy ice as far south as Bear Island in James Bay, where the ice was left on the 20th August.

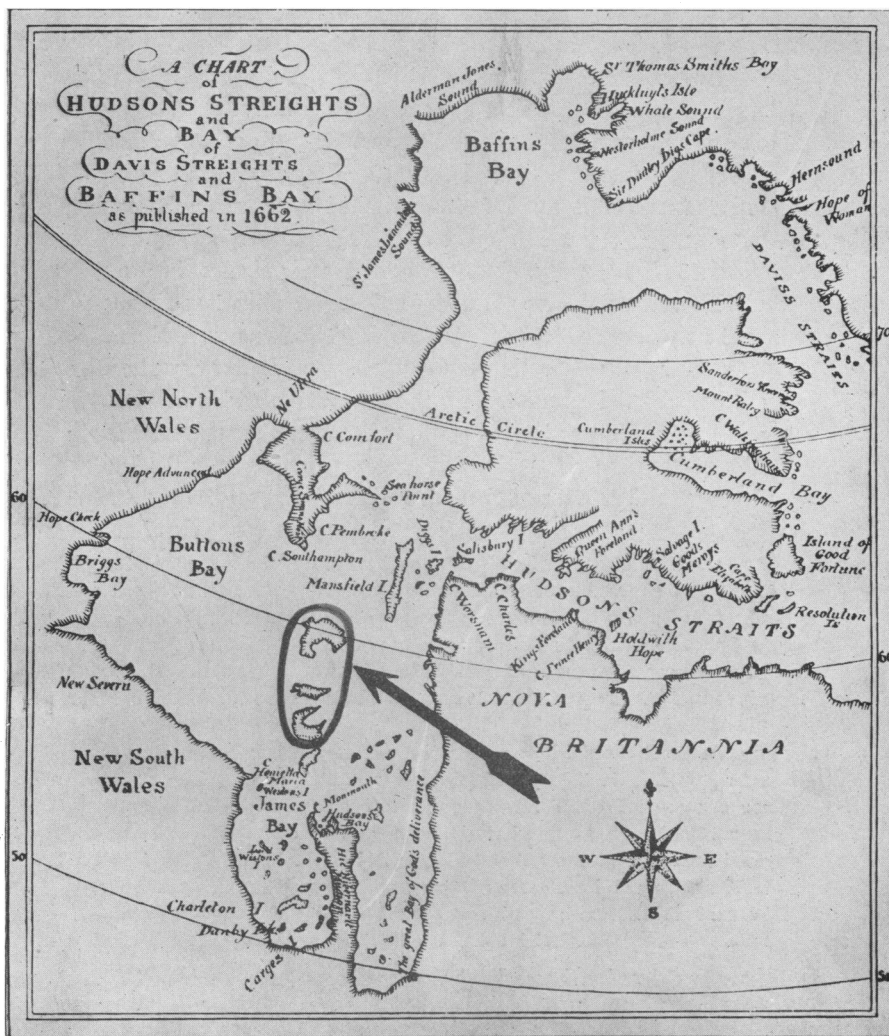


FIG. 3—Copy of a portion of a map from Drage's "An Account of a Voyage For the Discovery of a North-West Passage by Hudson's Streights . . . Performed in the Year 1746 and 1747," 2 vols., London, 1748-49, showing Hudson Bay and Strait as represented in 1662. Note the large islands in the east-central part of the bay.

Probably, also, he had in mind Dr. Bell's remarks on certain rock specimens supposed to have been broken from the fixed rocks of the Belchers and his belief that these specimens indicated the extension to the Belchers of the Nastapoka series.⁸

⁸ Robert Bell: Observations on the Geology, Zoölogy, and Botany of Hudson's Strait and Bay, made in 1885, Report DD of *Annual Rept. Geol. Survey of Canada*, Vol. 1 for 1885, Montreal, 1885, p. 14.

The islands further out to sea, opposite to this part of the coast, are also believed to consist of rocks of the Manitounuck [Nastapoka] group. Specimens, said to have been broken from the fixed rocks of the Belchers, opposite Little Whale River, were obtained



FIG. 4—Facsimile of a map of the Belcher Islands by Wetalltok, an Eskimo. The original is drawn in pencil on the back of an old missionary lithograph and measures $13\frac{3}{4}$ by $12\frac{1}{4}$ inches. Comparison with the true outlines opposite (Pl. IV) shows how remarkably accurate the Eskimo map is. In its grasp of the intricacies of the island system this map is a specially noteworthy example of its kind. For some other Eskimo maps see "Narrative of the Second Arctic Expedition Made by Charles F. Hall," edited by J. E. Nourse, U.S. Naval Observatory, Washington, 1879, facing pp. 351 and 354 (eastern coast of Fox Basin), and F. Boas' "Central Eskimo," *6th Annual Rept. Bur. Amer. Ethnol. for 1884-85*, pp. 643-647 (Cumberland Sound and Frobisher Bay, Baffin Island).

at my request from the Eskimo and are found to consist of amygdaloid, white and grey dolomite, a soft grey schist, and columnar calcspar, the last named apparently from a thin vein.



THE BELCHER ISLAND ESKIMOS

On the return to Great Whale River I questioned Harold, post interpreter, concerning the post trade with the island Eskimos and learned how every year the islanders, crossing the sea ice, bring bear, seal skins, walrus ivory, and fox skins to barter for tobacco, tea, sugar, matches, bits of finery, powder and shot, and a gun perhaps, if by good fortune there is a "silver" (fox skin) among them. They cross when the ice fields, the largest area of fixed ice in Hudson Bay, are frozen so as to be immovable between the islands and the mainland during the extreme cold months of February and March, a period rarely longer than six weeks. During the remaining months of the year they are isolated from intercourse with the mainland. Harold described how distinctly they differed as a tribe from the mainlanders, not only as to costume in winter, when they wear the feathered skins of eider ducks in place of the mainlander's deerskin, but in speech as well; which, he explained, was more "like the talk of children." He told how primitive they were and how poor as hunters—the latter a damning fault in Harold's Hudson's Bay Company eyes. Harold estimated that the island population numbered some 150 souls, thus corroborating information I had received from Wetalltok and confirming my impression of the extent of their territory.

UNCERTAINTIES OF THE EARLY CHARTS

On the earliest charts of Hudson Bay several large islands, sometimes three, sometimes four, appear, occupying conspicuously either the center of the bay or a position nearer the west coast (Fig. 3). These islands evidently originated with Hudson's own chart of his voyage of discovery into the bay in 1610. In the journal of the voyage by Prickett⁹ we are told that leaving Cape Digges on the north the expedition, southward bound for "a more genial climate wherein to winter,"¹⁰ wandered about for three months "in a labyrinth without end." The islands disappear from the charts at least as early as 1709, and various explanations for Hudson's delineation have since been given. Burpee, for instance, in his chapter on the discovery of the bay,¹¹ speaking of Hudson's voyage and chart says:

The chart shows several large islands lying off the western coast of Hudson Bay between 56° and 60°. From Roe's Welcome in the far north to the foot of James Bay, only two large islands lie off the western coast, Marble Island and Akimiski. The former being out of the question, we are reduced to Akimiski. That convenient island seems to be a peg on which to hang every theory of the fourth voyage that defies other solution.

Now, supposing the Belchers to be as large as represented, here, after all, was a land mass, as large as Mansfield Island, lying between 55° and 58°

⁹ In "Purchas, His Pilgrimes," 5 vols., London, 1625. Prickett's journal is in Vol. 3, pp. 597-609; see pp. 600-601. The journal is reprinted in "Henry Hudson the Navigator," edited by G. M. Asher, *Hakluyt Soc. Publs.*, 1st Series, Vol. 27, London, 1860, pp. 98-135; see p. 110.

¹⁰ Paraphrasing Prickett, these words are used by J. J. Shillinglaw in his excellent "A Narrative of Arctic Discovery From the Earliest Period to the Present Time," London, 1850, p. 88.

¹¹ L. J. Burpee: *The Search for the Western Sea*, New York, 1908, p. 21.

in approximately the latitude of Hudson's islands. Might they not, then, present a solution of the problem at least as reasonable as any of those already put forward? Supposing, also, Dr. Bell's belief as to the extension to the islands of the Nastapoka rock series to be true, and the native representations as to their size to be even approximately correct, here, indeed, was a field of promise in the economic sense and a fascinating one as well from an ethnological and geographic point of view.

THE SECOND EXPEDITION

By June of the following year, 1911, the expedition was under way. I again arrived, this time by the Missinaibi route, at Moose Factory and there secured a thirty-six foot sailing craft for the cruise to the islands. To make a long story short, our little craft proved inadequate for the work in hand, and we arrived at Great Whale River post too late to impress a crew for the crossing. Wintering at Fort George, therefore, I waited eight months for an opportunity to cross over the sea ice from Great Whale River, but was again doomed to disappointment when, on the point of making departure with two Eskimos, the field ice broke, disrupted by an extremely heavy gale, an occurrence unique in the twenty-eight years of old Harold's experience.

All thought, therefore, of reaching the islands was abandoned for the remainder of the winter and until the following open season. Whereupon, following an idea that had been shaping itself in my mind, I planned to explore an ore-bearing rock series, similar in character to the Nastapoka series, reported by A. P. Low as occurring along the lower reaches of the Koksoak River in northeastern Ungava, 100 to 150 miles inland from Ungava Bay. I hoped to find an extension of that series farther north on or near tidewater of southwestern Ungava Bay. The undertaking involved two traverses across northern Ungava through the hitherto unexplored portion of the peninsula; the first by sledge along the 57th to the 59th parallels eastward from White Whale Point on Hudson Bay to Leaf Gulf on Ungava Bay; the second by canoe along the 60th parallel westward from Payne Bay on the Ungava seaboard to the mouth of the Povungnituk River on Hudson Bay. The second traverse was undertaken only when I found that the return journey I had planned ascending the Koksoak River to the height of land, thence by the headwaters of the Great Whale River to Hudson Bay, would, in any event, owing to the unusually late break-up of the Koksoak River, bring me too late on the Great Whale seaboard for the crossing I had intended making that summer to the islands.¹²

THE THIRD EXPEDITION

So it happened that in October, 1912, a year and seven months after leaving civilization, I again arrived in Lower Canada with the expedition

¹² An article by the writer on his two traverses of Ungava Peninsula will appear in a forthcoming number of the *Review*.—EDIT. NOTE.

to the Belchers still unaccomplished. However, with a persistence altogether characteristic, Sir William said, "Get a ship." This meant outfitting on an adequate scale at St. Johns, Newfoundland, and proceeding through Hudson Strait and southward along the eastern coast of Hudson Bay. Accordingly the topsail schooner *Laddie*, of 83 tons register, was purchased from Captain Sam Bartlett, the well-known Arctic navigator of Brigus, Newfoundland. Captain H. Bartlett was put in command. The crew were: S. Gushie, mate; H. Spracklin, boatswain; McLeary, engineer; W. Robertson, cook; and R. O'Leary, K. French, and J. Robertson, seamen. S. Sainsbury and E. E. Laduke completed the personnel of the expedition.

Though we cleared St. Johns on August 17, 1913, it was not until a year afterward, late August of 1914, that we finally put into the bay. This was on account of our delayed departure from Newfoundland, which brought us so late into the strait that we were stopped there by winter. Winter quarters were erected in Amadjuak Bay on the south-central coast of Baffin Island, and the ship was sent back to Newfoundland with orders to return the following year over the first open water. During the year we carried out explorations along the seaboard. An attempt was made to explore the unknown coast line of Fox Channel;¹³ but an inadequate outfit and impassable rough ice made the project impossible, and at the Trinity Islands, 35 miles west of Cape Dorset, we were turned back. A small portion of the interior of southern Baffin Island was explored as far north as Amadjuak Lake. We compiled an ethnological collection for the Royal Museum of the University of Toronto, and with a motion picture outfit filmed the travel and igloo life and some of the religious performances, conjuring, and dances of the Baffin Island Eskimos.

The *Laddie* was six weeks *en route* to our relief, having encountered heavy ice all along the northern Labrador coast and at the entrance to Hudson Strait; in the strait she was nipped in a heavy ice stream which came near sinking her. On the 19th day of August, when we were living on the fag ends of our provision supply, she finally arrived, somewhat bruised at the bow and with a bent propeller shaft, but not beyond repair; and on the 23rd of August we set sail for Hudson Bay.

ARRIVAL AT THE ISLANDS

From Cape (Sir Thomas) Smith a course was laid due south and off shore some seventy miles. In latitude 59° we encountered thick, foggy weather, which was continuous to 56° 30'. We had sighted small islands, barren, low masses of trap, all of them less than two miles in length, whose outlying waters were shoal and infested with innumerable reefs. Fearing accident, toward nightfall of September 8, the ship's course was laid to

¹³ All such attempts are to be welcomed, as, for the representation of this not inconsequential feature of Arctic geography, we are still dependent on the Eskimo maps of 1868 procured by Hall on his second expedition. Cf. title of Fig. 4.—EDIT. NOTE.

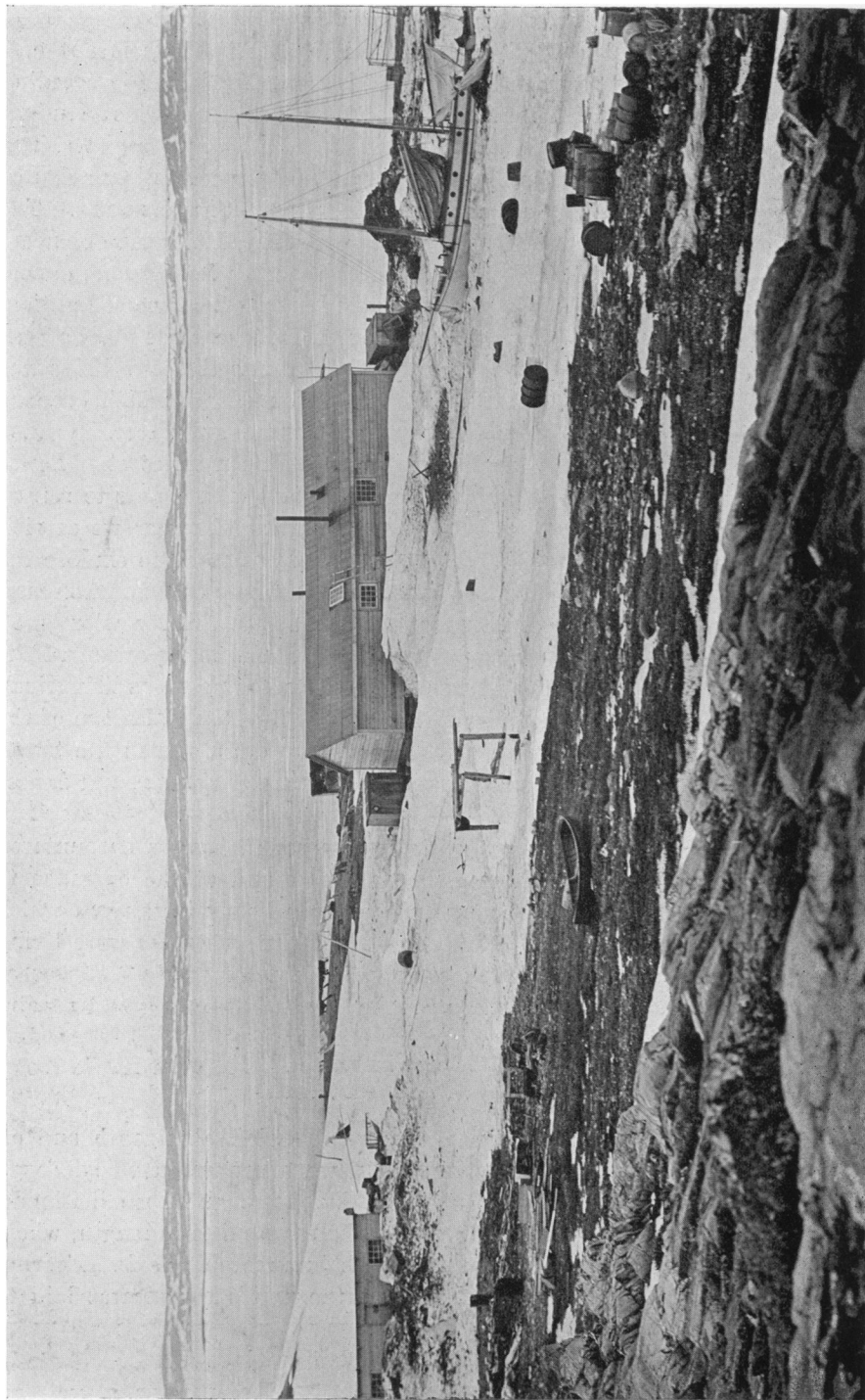


FIG. 5.—Wintering base on Belcher Islands, May 25, 1916. View looking westward across Omarolluk Sound. (Figs. 5-14 from photographs by the author.)

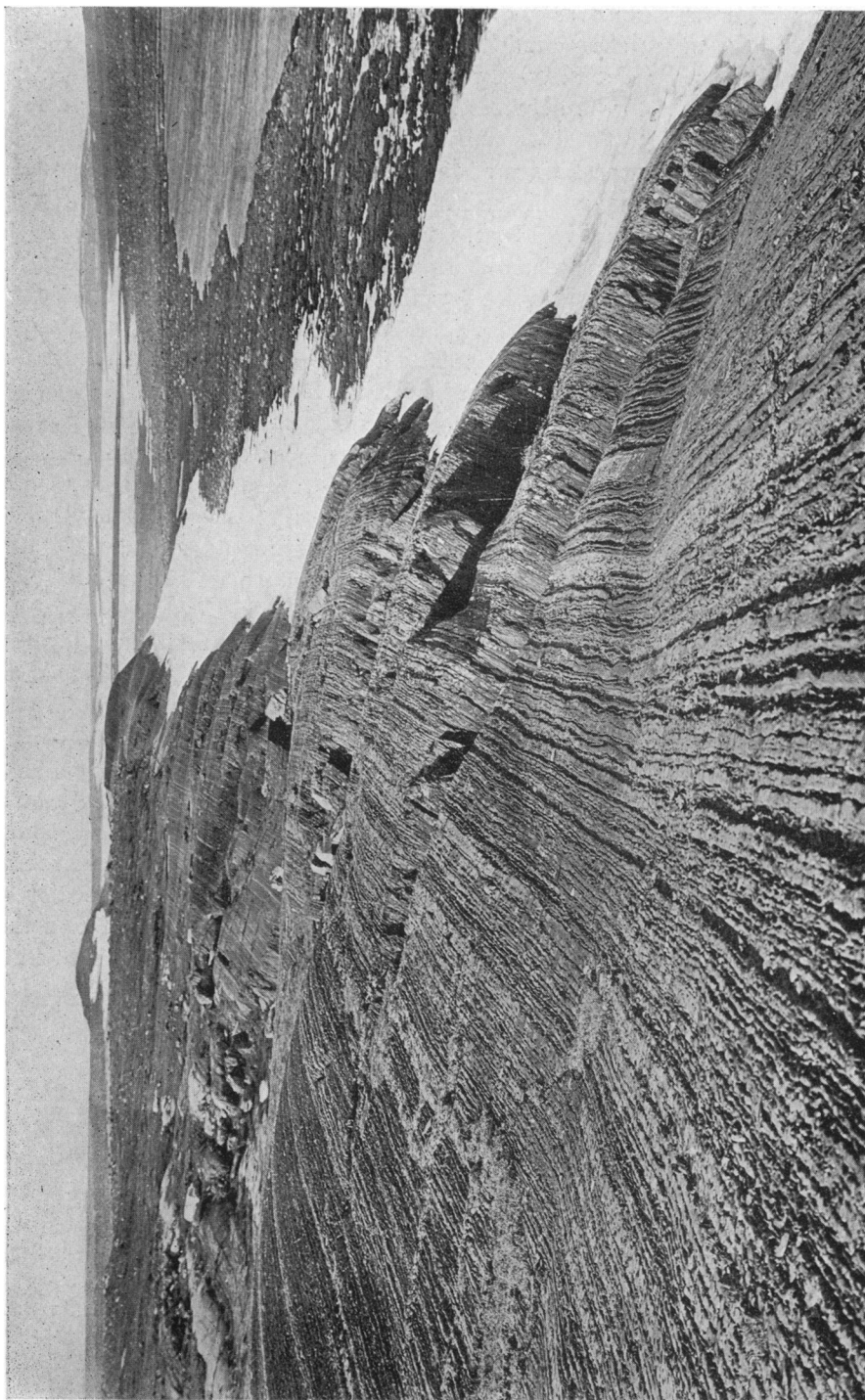


FIG. 6—The northwestern part of Tookcarak Island: looking along the strike of the rocks. Exposure of marl in the foreground.

eastward for sea room over night, but within the hour she grounded on a sunken shoal, where she pounded heavily through the night. When daylight came we made out through the lifting fog a small island a half mile to westward, while to the northeast, the east, and the southeast lay a nest of boiling reefs.

Contrary to our expectations of total wreck, at noon, by aid of the tide and the discharge of her ballast and oil fuel, the *Laddie* hobbled off unhurt. Our good fortune did not end here, for the watering crew, taking the ship's casks ashore to refill them, climbed a low hill of the small island's northern end and from its vantage saw land to the west extending north and south over nine points of the compass and distant approximately twenty-five miles; obviously it was an island seaboard at least sixty miles in length—identifiable only as the eastern coast line of the Belchers.

That evening we arrived at the northerly extreme of the island, logging twenty-two knots for the distance. From the crest of the shore range, a bold island-free coastline of barren, ice-scoured diabase descending some 250 feet half roundedly like a whale back into the sea, we gained a view of unbroken ranges of land to the westward, barren save for plots here and there of russet mosses, studded with tiny lakes, and extending inland to a horizon twenty miles away, and here, typifying as strikingly the topography of the country as do those of the Nastapokas and the mainland, lay the Animikies—first the coastal eruptives, and beyond them the red bands of shale and marl, the yellow of the quartzites, and the white gray of limestone, all paralleling north-northeast and south-southwest, the trend of the island generally.

A week was spent along the island's east coast. Six miles to southward of this first anchorage we entered a snug bottle-necked harbor, and, while the crew reballasted the ship and did such overhauling as under the circumstances was possible, we made crosswise trips inland and a launch cruise to the southward, covering short distances only, however, since we found the ore series we were looking for on the shores of the harbor itself, and detail work upon it consumed most of our time. We kept a sharp lookout for natives, but none were seen; though recent fire places, boulders, and old goose blinds were noted at several points along the shore.

RETURN TO GREAT WHALE RIVER POST

Embarrassed by the unseaworthy condition of the ship, on the morning of September 13 we cleared the islands, southward bound, to berth her for the winter at Moose Factory. At Great Whale River post the expedition instruments and gear were discharged and stored away against our return inlandward the following open season.

Strangely enough in the interval of my last visit to Great Whale River there had been brought to the post by one of the Hudson's Bay Company's employees, as a curio from a far-out post east of southern James Bay, an

old post copy of company correspondence—letters of Sir George Simpson, governor of the company, and of his factors on the bay during the years 1846-1849. These letters contained, besides routine business matters, a project for sending to the Belcher Islands, in order to open up trade with the inhabitants there, a half-breed servant of the company, Thomas Wiegand by name, with Eskimo companions. The letters relate how Thomas Wiegand carried out this project, making two trips to the islands, as given in the following reports of his expedition.

LETTERS RELATING TO THOMAS WIEGAND'S VISIT TO THE ISLANDS IN 1847-48

Extracts from a Letter from John Spencer, Fort George, dated July 9, 1847, to Mr. Jos. Gladman (Chief Factor)

. Conformable to your wish I sent Thomas Wiegand and those that I mentioned to accompany him to the Esquimaux Islands on the 3 March & they took their departure soon after the Ruperts Ho: men went off from here; but in consequence of the rough state of the Ice, accidents with the sled, and bad weather they were 7 days in crossing from Land to Land. Tom suffered a good deal from cold & the change in the mode of life which was natural to be expected, and the want of fresh water was a great privation to him, for the snow he was forced to make use of was completely saturated with the salt water rime which brought on severe dysentery Complaint. He saw but 5 Esqx at the Island he went to, as the rest had some time previously taken their departure to the northward with the view of hunting the Sea-horse at the Sea Horse Islands

However, the purport of this Trip was not so much for Trade as for ascertaining the lay of the Islands which Tom has now thank God so far ascertained as well as the position of an harbour for the Vessel, which is as far accomplished as a winter Survey would reasonably allow of, he has moreover given them instructions to be upon the lookout for the Sloop about a certain time of the year and Should she make her appearance for them to make a Smoke &c &c to say nothing of Land marks they are directed to set up. It must be necessarily the lapse of another twelve month before the more distant Indians [Eskimos] can receive the Glad Tidings thats in contemplation for them which no doubt they will be very happy to hear of. Altogether I should say the Trip augers [*sic*] favourably for future enterprise and time with patience are two of the Ingredients required for us to wrestle with in bringing things about as it will [be] a most desirable object to see those Islands by open water when every thing its to be hoped will appear to better advantage than when under the course of Snow & Ice

Extracts from a Letter from John Spencer, Fort George, dated Jan. 8, 1849, to Jos. Gladman, Esq.

. At all events he [Thomas Wiegand] succeeded in accomplishing a very important object in his visit to the Esquimaux Islands having neither met with obstructions from Ice or shoals and when arrived there he met with the shelter and security of an excellent Harbor; Objects of no trifling consideration to the explorers of a strange Coast—And although it so happened that he saw but few Natives and got but little from them it would be highly ridiculous in endeavoring to make that appear as a sufficient reason for not going again, and that their poverty should for a moment be thought sufficient for framing such an Idea, an Idea in itself as absurd as it is ridiculous and could only find shelter in a narrow mind, for after our Knowledge of those Islands being more or less inhabited, and that those Natives are living under no other protective hand than that which nature bestowed upon them; indifferent should we be

considered in our endeavor towards bettering mankind were we to shew ourselves indifferent towards them; and the more so when we seriously reflect on their present condition and coupling with it the short distance at which they reside from European aid—I think the three first objects above cited are of themselves a sufficient reason as well as consideration for future enterprise even chilled as the minds of the Crew were at the solitude of the place which in itself ought to form but a secondary consideration when exploring the regions of so inhospitable a portion of the Coast—what is it to them whether the ground be covered with luxuriant verdure and every thing around cheerful and pleasing; or for them to find it as they did, provided they are blessed with a good harbor when arrived there; and by concerting measures hereafter who Knows but the inhabitants of these Islands may be brought to furnish a valuable portion of Trade in Blubber, Foxes, Ivory and what not—All such matters have yet to be tried and if we cannot succeed it will then be time enough to relinquish the thing, and at the present moment I have no doubt but they view the Trip over there with a degree of unpleasantry altogether Ideal. For my own part I think all was done that could be reasonably expected of them, and the circumstance of the poor trade they met with I look upon as nothing just now—they succeeded in getting there and very smart too, they found a good harbor and these are grand objects; and its now for us to endeavor to do the needful in establishing among the Inhabitants of these Islands a perfect understanding of an annual visit from us for the purpose of Trade (Weather and circumstances permitting) and to endeavor to set them on a footing that will be worth while for us to go there, adding as it will to their comfort and convenience under a Hope from ourselves that such intercourse will ultimately prove beneficial to the concern

GENERAL RESULTS OF OUR THIRD EXPEDITION

That this estimable scheme for mutual benefit, however, was not to be realized is apparent from the fact that the islands so soon and so completely drop out of Hudson Bay tradition. None of the letters gave any evidence as to their size. Our own testimony to the extent of the land we had seen was received both at Great Whale River and elsewhere on the bay with open skepticism and no little “pleasantry” on the part of Company men whose life’s experience had been along the Great Whale seaboard.

We arrived at Moose Factory on October 2, and there experienced an aftermath of the island shipwreck, when the *Laddie*, discharged of her ballast and gear, filled to the engine room, but settled, fortunately, on a shallow river bar, over which she lay at anchor until berthed.

FOURTH EXPEDITION

After spending the winter in the confines of civilization we again reached our field of operations in September, 1915, when the *Laddie* again dropped anchor in the shelter of a Belcher Island sound. On this, our second visit to the islands, the explorations were carried on continuously through the winter and summer until the following September. They were as comprehensive as the limited resources of the expedition in men and means permitted, for only the ship’s master, W. Robertson, and a Moose Factory servant, to both of whom I am deeply indebted for what was accomplished, remained with me through the winter and following summer. The remainder of the crew were sent out in October and February owing to our



FIG. 7.



FIG. 8.



FIG. 9.

FIG. 7—Looking westward (8 miles) across Wetalltok Bay.

FIG. 8—Kasegaleek Lake: looking northward from 10 miles beyond its southern end. May, 1916.

FIG. 9—Kasegaleek River, the discharge of Kasegaleek Lake (at its southern end).

lack of fuel and provisions. By mid-March our fuel had become exhausted, and the *Laddie*, now crewless anyway, became the victim of circumstance and afforded us a fuel supply by her masts, yards, bowsprit, rails, and cabin—all of her in fact that was combustible. The following open season's work and the final journey from the islands were carried out in the *Nastapoka*, the same diminutive craft we had attempted to use in our first futile effort to gain the islands from Great Whale River on our second expedition.

TOPOGRAPHY AND STRUCTURE OF THE ISLANDS

The original map of the islands accompanying this article (Pl. IV) is a compilation from the maps we made as we traveled across country by sledge in winter, and along the coast by boat in summer. Though only approximate—distances were reckoned by odometer and log—it gives a fair idea of the extent of the islands and should be of use to those who may eventually chart them by detailed survey.

As the map shows, the islands cover an area of more than 5,000 square miles, having an extreme length north and south of 91 miles and an extreme width of 57 miles. The reader will note the peculiar outline of the islands, the consistent trend of sounds, indentations, bays, and inlets. The island ranges also, barren hills, the highest of them not more than 480 feet as determined by aneroid, lie like bands of rounded ribbing, paralleling the islands' trend. This is typical of the Animikean rocks, which were found everywhere to comprise the rock system. Eruptive diabases, extending over a third of the islands' surface area, include the more prominent of the ranges and are distinguishable by their conspicuous brown black appearance, by their generally more barren condition, and by their massiveness. They form a striking contrast to the sedimentaries, which lie in folds, synclines and anticlines, dipping east or west, as the case may be, at an angle which varies from 50° to 5° .

Owing to the absence not only of tree growth but also of soil, except where to a local extent it occupies the floors of valleys, the rock formations are everywhere so well exposed that with a field glass from a distance of six miles or more we were able to locate the white bands of quartzite, the reddish masses of the ore series, and the jet-black hills of the eruptives. This absence of trees and soil was a factor in facilitating exploratory work whose value can hardly be realized by one not familiar with such conditions.

THE LAKES

Throughout the interior of the larger islands lakes are everywhere found. They range in size from goose ponds and pools in the peaty tundra of the valleys to the magnificent Kasegaleek Lake (Lake of Seals). The smaller lakes are generally shallow; in many the ice freezes to the bottom, that is to a depth of six feet. The lakes not thus frozen in winter contain an abundance of Arctic salmon and whitefish, the only species of fresh-water



FIG. 10.



FIG. 11.

FIG. 10—Occurrence of iron ore and jasperite raised by frost action above ground level (indicated by the snow patches).

FIG. 11—Typical moss valley and barren diabase hill in distance.

fish found and an important source of the islanders' game supply during the open year until the middle of December. Kasegaleek Lake, 43 miles in length and, on an average, $7\frac{1}{2}$ miles in width, occupies the largest and central island of the group. It lies some 40 feet above sea level and discharges from its southwestern extremity through a small river 10 miles in length. This river is broken into a series of lake expansions and descends by rapids, none of them too rugged for kayak travel, to the sea. A mile from its mouth it is 200 feet wide, has an average depth of 4 feet, and a current flowing at the rate of 3 miles per hour. The eastern shore line of the lake is composed of almost sheer rugged cliffs and steep hills of diabase, averaging 150 feet in height and extending nearly the entire length of the lake. On the lake's northeastern portion, a U-shaped bay extends eastward to within 1,500 feet of tide water, to which, through a canal, the water of the lake could easily be led, with a fall of 40 feet.

The western shore of the lake is less rugged and is broken by islands and long-fingered indentations which run parallel to its length. The islands increase in number to southward, being most numerous in the southwestern portion. The natives say that the lake is extremely deep. Unfortunately I had neither time nor opportunity to make soundings. Innumerable pools and small lakes on the islands and throughout the low tundra of the western shore are breeding-grounds for geese during the months of May, June, and July. At this season the natives come there to hunt them, to gather eggs, and to fish for the Arctic salmon which then are spawning in the gravels along the shore line and in the mouths of entering streams. Here also they hunt the fresh-water seal, with which, they assert, the lake abounds; hence its name. Its clear, green water, hemmed in by the jet walls of rugged shore, with a traverse that extends to a landless horizon when viewed from either extreme, forms, despite the dearth of trees and vegetation, a picture that is singularly beautiful.

NAVIGATION

Good harbors, ranging from sounds to small and snug bottle-necked anchorages, occur throughout the islands. With proper charting, the approach from sea, save along the southwestern coast, should not be at all dangerous. The season of open water varies greatly, however. During the year of our residence the field ice cleared on June 10 and did not return again during the summer. We gathered that this was a very unusual occurrence and was due to the prevalence of northerly winds during May and June when the sea ice was rotting and being broken by the tides. The Eskimos say that in some years the islands have been surrounded by pack ice as late as mid-August, and that ordinarily the annual clearance occurs about the first week in July. For ships built for the navigation of Hudson Strait the average date of approach to the islands should be approximately the first week in July, if not earlier, since much of the field ice, if

still existent, would then probably be rotten enough to offer no obstacle. Obviously only ice observations covering a period of years can yield results of definite value.

CLIMATE

The climate of the islands differs widely from that of the opposite mainland. Compared with weather reports from Great Whale River for the same period, our observations gave a far greater proportion of overcast skies and fogs, stronger and more constant winds, but higher and more equable temperatures. From October till early December winds of a velocity up to 50 miles were almost constant, and the sky was continuously overcast.

No snow covered the ground permanently until November 15, and no ice was formed in the small lakes near the wintering base until December 4, when the long period of winds ceased and a fortnight of calm, clear weather set in. The mercury did not fall below zero until January 2—a weather condition without precedent in my experience of the North. Great Whale River early in December had a minimum temperature of -30° and recorded a constant average for the period well below zero.

On January 2 winter commenced in earnest. The month was characterized by constant drifting winds of a maximum force of 70 miles; calm days were unknown; and the average temperature was -16° . In February the winds abated; there were many days of sunshine, a few of them almost calm. The average temperature for the month was -19° . Throughout March strong winds again prevailed; by the end of the month the snowfall for the winter had reached its maximum, 4 feet; the average temperature for the month rose to -9° . In April and May there was the usual prevalence of wind, and several blizzards occurred, each covering a period of from one to two days. In the latter part of May the weather broke and became warm and summery; in fact, there were heavy thunderstorms at this time. On May 28 sledging over the ice fields was at an end, and by June 10 the field ice surrounding the islands had blown off to southward. Then commenced the most trying time of the year; for hardly two days together did fair weather obtain. From mid-June onward to the time of our departure on September 13 exceedingly heavy gales of wind of from one to three days duration occurred in every week. The prevailing direction of the winds was south-southwest for not only that period but for the entire year. Days of sunshine were rare; the sky was generally overcast; and rains, accompanied usually by heavy south-east winds, were frequent. According to the natives the weather we experienced during that year was not at all typical; usually, they said, the winds were fewer and less violent, and the temperature during the winter was lower. The remarkable lateness of the freeze-up (December 23) was, they said, without precedent. The minimum temperature for the winter was

—48° as compared with the lowest mean reported temperature on the mainland of —55°. The maximum thickness of fresh-water ice was 5½ feet, and of sea ice 5 feet. The maximum temperature for the summer, occurring on July 25 at noon, was 70°.

PLANT LIFE

The plant life of the islands, typically subarctic, like that of the mainland comprises the Arctic white and gray lichens and mosses, the stunted northern willow, the dwarf birch, and flowering plants. Before the snow has altogether disappeared in late June banks of anemones—solid masses of color, yellow, purple, and white—and waving plumes of wild cotton lend the moss-carpeted valleys the aspect of cultivated fields.

At least six varieties of edible berries are found; they are for the most part ripe by mid-July and occur wherever the mosses grow plentifully. All of them are much prized by the Eskimos and form the only vegetable portion of their otherwise exclusively meat diet. First in importance is the cranberry, chiefly valuable because of its keeping quality and its medicinal value as an antiscorbutic. The Eskimos, however, unlike the Indians of the Ungava interior, do not gather the berries for storage through the winter.

ANIMAL LIFE

Compared with that of the mainland, the animal life on the islands is more typically arctic. Here the black bear, beaver, otter, wolf, wolverine, marten, ermine, and fisher are unknown, and the only species common to the country along and south of the timber line are the colored foxes. The various species of seal, cited in the order of their importance from the point of view of the natives' food supply, are: the ringed seal, the square flipper, the harp (rare), and the fresh-water seal. Walrus, hunted at various points on the most northerly outliers of the islands, are found there in large herds during the open season.

Till within the last thirty-five years or so there grazed on the islands large herds of Barren Ground caribou. In one portion mounds of their bones can still be seen. The natives explain their disappearance as the result of heavy rains followed by a cold wave which froze the moss and lichen plains into a vast glaze of ice so that the caribou, their food supply rendered inaccessible, all perished from starvation. At about this same time, however, the mainland herds also disappeared, changing their migration to the eastern slope of the Ungava Peninsula, since which time they have never as a herd reappeared along the Hudson Bay slope south of 60° N. This shifting of the mainland migration is the more probable explanation of the disappearance of caribou from the islands, particularly when one considers the ease with which they could cross the field ice connecting the islands with the mainland in winter.

The white whale, or porpoise, is found in large schools during the open

season throughout the island sounds and larger indentations. Its flesh is highly prized by the natives, as is also the oil. The hide furnishes a high quality of leather.

The right, or bowhead, whale is not known, though it ranges as far south as the Ottawa Islands in 60° N., where the Scotch whaler *Active*, of Dundee, has twice wintered. We found the carcass of one, probably killed by the *Active's* crew, on a small outlier northeast of the main islands. The sight of it was a novelty to the natives who were with me at the time.

Polar bear are found most plentifully when the coast is icebound, or when large areas of field ice surround the islands. In summer they are rare. We saw none during our exploration of the country, and less than six were killed by the natives during that period.

Of the foxes—white, red, cross, silver, and black—the white, or Arctic, is more numerous than all the other species together. The blue fox is also found, but more rarely. Arctic hare are not plentiful. Of the small rodent forms the Hudson Bay lemming is the most common.

BIRD LIFE

Of the birds on the islands, which, with their eggs, constitute an important source of native food supply during the breeding months from mid-May to mid-July, sea fowl are, of course, the most abundant. They are represented principally by the eider duck, first in importance as game; the black duck; the glaucous and, more rarely, the ivory gull; the black-throated and the red-throated loon; the plover; the yellowlegs; and the sea pigeon, found in large rookeries on certain small rocks outlying from the main island group. The Canada goose breeds on the islands in large numbers, the first arrivals coming on or about the last week in April; and with the southward migrations in September and early October comes also the wavey, and sometimes the brant. Rock ptarmigan are not plentiful.

POPULATION

The Eskimos native to the islands are called Kittoktangmiuts, or "islanders," in distinction to the Itivimiut, or mainland, tribe. Of these there are not more than five families, the remainder of the population, twenty families or so, being made up of mainlanders who, attracted by the walrus grounds and sea-fowl rookeries and outlawed in some instances by their own people, have from time to time emigrated to the islands. The tribes are not radically different. The most noticeable difference between them is not so much the dialect as the manner of speaking. The islanders speak more slowly; as Harold aptly expressed it, they have "the speech of children."

Since the disappearance of the caribou from the islands the population, for want of deerskin, has had recourse for clothing in winter to the feathered

skins of eider duck and sea pigeon (Figs. 12 and 14). These materials are inferior in wearing quality, heavier, and too warm for even the coldest weather; furthermore, to the white man's nose at least, they are most obnoxious. The summer clothing, fashioned according to custom principally from sealskins, is not distinctive; nor are their implements, sledges, and kayaks different from those in use on the mainland.



FIG. 12.—A Belcher Island Eskimo boy in eider duck costume. Skins reversed, feathered surface inside. The boy's left cheek is frozen.

The services of many of the people were utilized during our wintering in connection with exploration work. Their aid proved invaluable. They took a real interest in our iron ore exploration, particularly when we pointed out that their guns and knives were made from iron ore. We taught them to apply the test for hematite by scratching specimens for a characteristic red streak, and many of the ore occurrences that we explored were first found by them.

During the winter we compiled a series of motion pictures, showing the primitive life, crafts, and modes of hunting and traveling of the islanders—an improved version of the film we had previously made on the

Baffin Island expedition. With a portable projector brought for the purpose we showed the islanders a copy of the Baffin Island film, purposing in this way to inspire them with that spirit of emulation so necessary to the success of our filming. Nor were we disappointed. Enthusiastic audiences crowded the hut. Their "Ayee's" and "Ah's" at the ways of these their kindred that were strange to them were such as none of the strange and wonderful ways of the *kablunak* (white man) ever called forth. The deer especially ("Tooktoo!" they cried), mythical to all but the eldest among them, held them spellbound.

Indeed for the co-operation of the people we had reason to be grateful throughout our stay with them. To their daring as kayakers, surpassing that of any other Eskimos of my acquaintance; to their knowledge of ice fields and their "working"; and to their craft and skill at winter traveling, we in great measure owed the safety and success of various undertakings.

Their honesty was the honesty we had learned to admire in the Baffin Island Eskimos, with whom we had lived under the same conditions of

trust. For we had a trade outfit, apart from expedition supplies, which we used in paying the natives for services in film work and exploration, for dogs and dog driving, and for such game as they could furnish at various times through the year; and this material, several tons of it, consisting of flour, pork, sea biscuit, grease, sugar, tea, tobacco, cheap candy, finery, knives, axes, files, Winchester .44 carbines, powder and shot, nails, and bits of hardware—a treasure trove in the native eyes—was housed in ten-by-twenty-foot tents and, though easy of access to any who might wish to help themselves, was never once molested.

MINERALS

Our mineral explorations resulted in the discovery of four distinct ranges of iron-bearing rocks, 30 miles in length and 3 miles apart, one from another, in an east-and-west direction, on the eastern half of the islands. The longest continuous outcrop found was 4 miles in length, with an average width of the ore body—if such it may be called, for it is a mixture of ore, jasper, and much other siliceous material—of 30 feet. This outcrop is the northern extremity of a range which follows for 25 miles the eastern shore line of Keepaloo Inlet. Here from what is the western edge of an enormous syncline the ore series dip 40° to eastward and underlie Omarolluk Sound, $5\frac{1}{2}$ miles across to its eastern shore, where the eastern edge of the fold is found, though in much leaner state and less exposed at surface. These figures may convey to the reader some idea of the magnitude of the largest of the iron ore deposits. No ore of high quality, however, was found. The best, in Keepaloo Inlet, averaged from wall to wall not more than 38 per cent metallic content—obviously too low-grade a product for present operation in these latitudes. The principal detriment to the ore is silica; as far as phosphorus is concerned it is fairly clean, averaging less than .005 per cent.



FIG. 13—A Belcher Island Eskimo woman, aged about fifty years.

In certain contacts between the silicified limestones and diabase on the western slope of Tookcarak Island were found occurrences in small stringers of calcite, of smaltite, and of cobalt bloom. There was no body of calcite, and the distribution of the minerals where found was sparse. Other minerals noted were manganese, occurring in small stringers in iron-bearing

ing slates and chalcopyrites, some of the latter mineral containing as much as 30 per cent of copper. Neither mineral was found in commercial quantity, however.

OTHER EXPEDITIONS

In August, 1916, the writer's father, R. H. Flaherty, M.E., Dr. E. S. Moore, professor of geology in the Pennsylvania State College, and W. H.

Howard, Dominion Land Surveyor, arrived on the islands. Dr. Moore and Mr. Flaherty made geological and mining reports on the expedition discoveries. Dr. Moore also made a geological cross section of the folds of rock series over the eastern half of the islands. Mr. Howard's work comprised an accurate determination of the position of the islands in relation to known points on the mainland as well as some detail surveys in connection with Dr. Moore's and Mr. Flaherty's reports to Sir William.

During the summer of 1915, that is the summer succeeding our first landing on the islands, the Hudson's Bay Company had made an expedition



FIG. 14—A Belcher Island Eskimo in eider duck costume. Feathers outside.

there with a local James Bay steamer and salvaged one of their sailing vessels which had been carried away by ice the preceding fall from Fort Churchill 500 miles across the bay. She had been reported to Mr. Mavor, the factor at Great Whale River, by migrating Eskimos, whereupon he had sent out his clerk, Mr. E. Renouf, a young Englishman, to verify the report. This Mr. Renouf did, crossing the field ice with two Eskimos, the first crossing over the ice to be made by a white man since Wiegand's in 1849. During our wintering Mr. Mavor and the Rev. Mr. Walton, missionary to the Eskimos of the Great Whale seaboard, visited me. All of this was the more interesting since the bay folk had been skeptical of Wetalltok's "Big Islands" yarn. The Big Islands are ancient history in the bay now, and Wetalltok stands vindicated.